UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

OCT 0 9 1986

MEMORANDUM

SUBJECT: Draft Vulcan RCRA Permit and TSCA Approval Responsiveness Summary

FROM: Michael J. Sanderson for
Chief, RCRA Branch, WSTM

TO: Addressees

Attached is a Draft of the Vulcan RCRA Permit and TSCA Approval Responsiveness Summary. This package includes draft responses prepared by KDHE and EPA staff. This format follows the Pyrochem PCB Incinerator Responsiveness Summary format. The Responsiveness Summary will be finalized upon receipt of comments from EPA and KDHE staff.

Please provide comments to Lynn Harrington, Permits Section, by October 17, 1986. If you have any questions, please contact Lynn Harrington at (913) 236-2888, x657.

Attachment

Addressees
Morris Kay
Bob Chanslor, ARBR
Bob Fenemore, TOPE
Jody Hudson, ENSV
Kent Johnson, CNSL
Ralph Langemeier, DRNK/WATR
Margaret Lindberg, CNSL
Rowena Michaels, PBAF
Tony Petruska, TOPE
Bill Rice, DRA
Ron Ritter, CIGL
Dana Trugley, SPFD
David Wagoner, WSTM

John Goetz, KDHE
John Mitchell, KDHE

DRAFT

RESPONSIVENESS SUMMARY

Following are the Environmental Protection Agency (EPA) and Kansas Department of Health and Environment (KDHE) responses to comments received during the public comment period regarding the Vulcan Materials Company Resource Conservation and Recovery Act (RCRA) permit for operation of hazardous waste incinerator, drum storage area and underground injection control wells. The public comment period began July 24, 1986, and was scheduled to end September 8, 1986. At the public hearing held on August 27, 1986, the public comment period was extended until September 12, 1986.

AIR COMMENTS

1. Several commenters requested ambient air monitoring in the Vulcan area, in particular air monitoring by an independent source and split samples with EPA and/or KDHE. Air toxicity monitoring was requested specifically for pesticides and hexachlorobenzene.

The KDHE Administrative Order issued to Vulcan on January 28, 1986 requires Vulcan to conduct an air monitoring program. Racon, owned by Essex Corporation and operated by Vulcan, also received an Administrative Order from KDHE on January 28, 1986. Vulcan and Racon are conducting a joint air monitoring program. The monitoring program constituents have been jointly reviewed by KDHE and EPA.

The KDHE operates the Clean Air Act (CAA) program in lieu of EPA and has authority to require an air monitoring program. The KDHE is developing an air toxics program to evaluate toxic emissions with respect to health effects on persons.

The KDHE and EPA are evaluating the need for split samples during the air monitoring program.

2. One commenter requested that Vulcan reduce the tons of particulates being dumped on the community. Another commenter stated that Vulcan was being allowed to illegally discharge carcinogens into the atmosphere. Another commenter indicated that employees are told to open valves and fumes will blow out of the area.

The RCRA program authority extends to air releases in two situations. First, the hazardous waste incinerator permitting standards are designed to be protective of air quality relative to incinerator emissions. In the case of Vulcan, the trial burn results demonstrate that the permitting standards are achieved. The second area of RCRA authority over air releases is the Hazardous and Solid Waste Amendments (HSWA) Section 3004(u) authority. The activities Vulcan must undertake to address the 3004(u) requirements with respect to air releases are addressed in Section VI of the permit. These are the only RCRA authorities which address air releases, RCRA authority does not extend to air releases from process units.

The remaining air release concerns, such as from process units, must be addressed under CAA authority by KDHE. Applicable CAA authorities include Section 303 which requires action to be taken if there is an "imminent and substantial endangerment" to health of persons, Section 319 requires promulgation of regulations to establish air monitoring programs and Section 112 requires establishment of emission standards for hazardous air pollutants.

3. One commenter suggested that tanks 416 and 437 are open, above ground tanks and have the potential to emit hazardous toxins to air.

Tanks 416 and 437 would be considered solid waste management units under Section 3004(u) of HSWA. Section VI of the permit includes a remedial investigation phase which will require evaluation of these tanks and the potential for releases to all media defined as air, groundwater, and surface water including sediment.

4. One commenter stated that four chemical releases have occurred jn two months and ask why residents were not notified of the releases.

The RCRA contingency plan regulations require Vulcan to notify local authorities when evacuation of surrounding areas is necessary.

As indicated in the response to Contingency Plan comments, the RCRA contingency plan requirements apply only to the hazardous waste management units. An emergency respone/contingency plan for responding to releases of products, raw materials or other materials from Vulcan's plant is to be studied jointly by KDHE, Vulcan and area local authorities.

5. Commenters indicated that the citizens do not want to accept the trade off of air emissions associated with an air stripper to remove volatiles from groundwater for clean groundwater.

Until the remedial investigation and corrective measures studies required by Section VI of the permit are completed, a decision cannot be made about which corrective action techniques and environmental considerations associated with each technique are acceptable at Vulcan. Environmental considerations will also be evaluated for any interim measures deemed necessary. The EPA and KDHE will consider the concern of tradeoffs when evaluating the corrective measures report. Also, as outlined in the Section VI Solid Waste Meanagement Unit response to comments, the public will have an opportunity to review and comment on the corrective measures report prior to final approval by EPA and KDHE.

DRAFT

CONTINGENCY PLAN

1. Several commenters stated that the contingency plan seems written to protect only Vulcan's employees and not the general public.

The Resource Conservation and Recovery Act (RCRA) required contingency plans are designed to cover any and all emergencies that may occur at regulated hazardous waste units at facilities. The plan cannot, for example, cover releases of products or raw materials to the environment. At Vulcan's Wichita facility, the contingency plan covers accidents and emergencies at the hazardous waste incinerator, container storage area, and underground injection control wells. The plan covering these facilities in Vulcan's RCRA permit application meets all requirements of the RCRA regulations. For releases of products or raw materials, or other emergencies at the plant KDHE, Vulcan and Wichita area local authorities will be working together on a plan to cover all emergency repsonse/contingency situations at Vulcan's facility.

2. Comments were raised that the contingency plan seems to be implemented entirely at Vulcan's discretion.

The response to any emergency situation must be initiated by those immediately at the scene because they are the first to become aware that an emergency exists. Once the contingency plan has been initiated, representatives from KDHE, EPA, local response teams and others become involved and Vulcan no longer has sole discretion.

3. One commenter suggested the Sedgwick County Fire Department (SCFD) should be notified immediately of <u>any</u> fire at the Vulcan plant so they may maintain a standby basis.

The RCRA contingency plan is required only to address emergency situations involving the RCRA hazardous waste facilities. Moreover, Vulcan maintains fire fighting equipment and a staff of personnel specifically trained in fighting chemical fires. If these trained people cannot arrest or control a fire at the plant, the SCFD is notified. It is not reasonable for SCFD to maintain a standby status for every fire at every industrial site within their jurisdiction.

4. One commenter indicated a four minute response from SCFD and a ten minute response from Emergency Medical Services (EMS) looks good on paper, but asked should this be stated as unalterable fact in the permit?

> The above response times for SCFD and EMS are not stated anywhere in the permit. The KDHE cannot require in the permit response times for outside emergency response agencies for which KDHE has no permit enforcement authority over. They are provided in the permit application by Vulcan as estimates of how soon SCFD and EMS can respond to an emergency.

5. Commenters ask if all of the many acutely toxic chemicals involved at the Vulcan plant are of the nature to be malodorous enough for a Vulcan emloyee to ascertain the toxicity of the chemicals involved in a release. Certainly chlorine gas and some of Vulcan's products could be identified but a complete inventory of all of the Vulcan-Racon chemicals may show that more sophisticated methods of monitoring may be called for. Does Vulcan employ use of any portable monitoring devices for detection of chemical releases?

> Again, the only releases regulated by this permit are releases of RCRA hazardous waste. An emergency response/contingency plan for releases of products, raw materials or other materials from Vulcan's plant is to be studied jointly by KDHE, Vulcan and area local authorities.
>
> Vulcan maintains computer simulated air release dispersion models to aid in determining the areal extent, concentrations and direction of travel of air releases. In addition, Vulcan maintains an on-site weather station which allows them to monitor wind speed and direction.

6. Commenters ask why Wesley and Riverside Hospitals were not included on the Emergency Medical Facilities List. All health related agencies, clinics, physicians and hospitals within a reasonably designated radius should be supplied with full toxicity information. Private individuals may not necessarily go to hospitals of Vulcan's choice.

> KDHE agrees that Wesley and Riverside Hospitals should be on the Emergency Medical Facilities List. However, KDHE does not agree that all health related agencies should be sent copies of the contingency plan or toxicity information. It is the intent of the law to require that fire departments, the police and hospitals be provided with sufficient information on a facility so they may understand their role in the event of an emergency. In the event that a medical emergency may require services, in addition to the four hospitals currenlty listed, the other health agencies would be made aware of any specialized information they may need to know at the time of their involvement.

7. One commenter contacted Haysville and Clearwater city offices and neither had a copy of the Vulcan contingency plan.

Clearwater and Haysville were not sent copies of Vulcan's contingency plan because neither town has a hospital or other emergency response team that might be called upon to provide assistance should an emergency occur.

8. Comments were raised that the Vulcan contingency plan does not provide public evacuation routes, alarms and shelter locations.

The authority for designating public safety plans like evacuation routes, sounding alarms and providing shelter locations lies with local authorities such as police and fire departments. This authority cannot be delegated to Vulcan by this hazardous waste permit.

9. Commenters suggested that Vulcan should install an alarm system not entirely dependent upon telephones.

The regulations require that the permit specify that hazardous waste facilities be equipped with telephones or hand-held two-way radios. Vulcan has satisfied this requirement.

DRAFT

SECTION VI SOLID WASTE MANAGEMENT UNITS

1. Several commenters requested the groundwater cleanup schedule be modified, groundwater cleanup plan be submitted before permit approval, and the permit delayed until groundwater cleanup is completed.

The Hazardous and Solid Waste Amendments of 1984 (HSWA) extended authority under the Resource Conservation and Recovery Act (RCRA) to releases of hazardous waste or hazardous constituents from solid waste management units (SWMUs) as defined under Section 3004(u). Prior to HSWA, EPA or KDHE did not have the authority under RCRA to address groundwater contamination at Vulcan. The EPA and KDHE are currently reviewing all groundwater information submitted by Vulcan against the RCRA requirements for groundwater monitoring and corrective action systems. For example, the RCRA regulations require a complete characterization of the site hydrogeology. A site characterization of sufficient detail to meet the RCRA requirements has not been conducted, but is required under the remedial investigation phase of the groundwater corrective action program. A determination of the adequacy of the existing groundwater management program cannot be made until the detailed site characterization including plume location and file review are completed. One commenter was concerned that the groundwater problems have been studied to death. While a lot of studies have been conducted, these studies do not address the more stringent RCRA requirements, including the Technical Enforcement Guidance Document (TEGD). The TEGD provides detailed guidance on completing a site characterization and developing an adequate groundwater monitoring system. Several months at a minimum will be needed to complete the site characterization and remedial investigation process.

In addition to the current activities described above, a number of other activities related to groundwater contamination at Vulcan have been ongoing for sometime. On January 28, 1986, KDHE issued an Administrative Order to Vulcan which required investigation of releases from encapsulated alpha cake and hex waste, technical alternatives to encapsulation of alpha cake and hex waste, sampling and analysis of liquid and sediment in stormwater lagoons, construction of additional monitoring wells south of Vulcan including split samples with KDHE, evaluation of adequacy of existing groundwater cleanup plan and submittal of an updated long term groundwater monitoring plan for on-site and off-site groundwater contamination. Information contained in these documents is currently under review by EPA and KDHE. In addition, KDHE has been working with Vulcan on a groundwater cleanup program and whole site corrective action since the mid-1970s under State authority.

DRAFT

Based upon the past and present activities described above, KDHE and EPA will proceed with final permit issuance. A final RCRA permit not only is an enforceable mechanism for requiring groundwater cleanup activities, but also places all RCRA regulated units at the Vulcan facility under the more stringent Part 264 requirements for permitted facilities rather than the Part 265 interim status standards.

If the permit is delayed or denied, EPA would have to issue a Section 3008(h) Corrective Action Order to require groundwater corrective action which would cause an additional delay in implementation of the corrective action program. A final RCRA permit achieves the same goal as the 3008(h) order, i.e, groundwater corrective action. At Vulcan, a final RCRA permit is the preferred approach since the corrective action requirements and unit specific permit operating requirements can also be enforced under the permit.

2. Several commenters stated that their private well water is more contaminated now than in previous years.

The EPA and KHHE are reviewing all past and present information on Vulcan groundwater contamination. This will include a review of all available private well sampling analytical results. Attachment VIII of the final permit outlines the type and amount of information needed to address the RCRA groundwater requirements through the corrective action program outlined in the permit. The need for immediate corrective measures will be evaluated now and during the remedial investigation phase.

3. Several commenters requested an opportunity to review and comment on corrective action activities. Commenters requested all corrective action documents be located in a respository convenient to the citizens in the Vulcan area.

The schedule included in Section VI targets a public meeting after completion of the remedial investigation report to provide an opportunity for comment on the release characterization. A public meeting would also be held after completion of the corrective action report to receive comment on the recommended corrective action. The public meetings would be held before final approval of the reports. The reports would be made available in local repositories prior to the public meetings to allow an opportunity for public review.

There have been concerns raised regarding locations of repositories for the draft RCRA permit being inconvenient to the interested citizens. While it is not always possible to locate repositories in neighborhoods of interested citizens, we make every effort to locate repositories in public buildings in the area of the interested citizens. If public buildings more centrally located which can serve as a repository are found, we will designate those buildings as repository. The number of repositories for corrective action information will be limited to one central locations both north and south of Vulcan.

4. Commenters stated that a history of the Underground Injection Control (UIC) wells operation could be found in the Sharilyn Dienst testimony at the UIC permit public hearing. One commenter requested that Vulcan not be allowed to operate the UIC wells for two hours without an inspection as a pressure drop during the two hour period could cause groundwater contamination.

The EPA and KDHE have reviewed Mrs. Dienst's testimony from the UIC permit public hearing. The testimony was considered during development of the final UIC permits. The UIC wells operating permits have been issued by KDHE which has primacy for the UIC permit program under the Safe Drinking Water Act (SDWA). The UIC wells receive hazardous waste and are also regulated under RCRA permit by rule requirements of 40 CFR Section 270.60. The RCRA Section 270.60 regulations require the UIC wells to have a permit issued under Parts 144 or 145 of SDWA and must comply with Section 144.14 for UIC wells managing hazardous waste. Section V of the final permit includes additional requirements for the UIC wells operation. The groundwater remedial investigation will include an evaluation of information relating to construction, operation and plugging of all Class I UIC wells including a description of all conditions which could have resulted in a release, whether or not an actual release was documented.

Regarding the comment on UIC inspections more frequent than two hours, the KDHE and EPA reviewed the UIC operating conditions for conformance with the regulations and protection of groundwater.

5. One commenter mentioned an August 14, 1975 fish kill that occurred in Cowskin Creek and the Wichita-Valley Center Floodway.

The EPA and KDHE have reviewed file information on past fish kills in Cowskin Creek and the Wichita-Valley Center Floodway. The EPA RCRA Branch tasked a contractor to perform a RCRA Facility Assessment (RFA) for the Vulcan facility. The RFA process is the first step in the evaluation of releases from solid waste management units as outlined in Section 3004(u) of HSWA. Releases to groundwater had been documented, but documentation of releases to other media was not available. On August 21 and 22, 1986 an EPA contractor collected samples in the area around Vulcan Samples were collected from the surface runoff pathway to Dry Creek, the drainage ditch along the north side of the railroad tracks leading to Cowskin Creek and Cowskin Creek. The five soil and sediment samples collected from each area will be analyzed for volatile organic compounds and pesticides. This sampling event will provide information on evidence of releases related to past fish kills. The remedial investigation will include an evaluation of all information available on past fish kills.

6. Several commenters requested that EPA and/or KDHE obtain split samples during groundwater sampling events at Vulcan.

Currently the KDHE obtain split samples annually on selected wells at Vulcan. The KDHE will continue to obtain annual split samples until the new corrective action program is in place at which time EPA and KDHE will reevaluate the number and frequency of split samples.

7. One commenter ask if basins 2 and 3 are leaking hazardous waste to the groundwater.

The groundwater portion of the remedial investigation will evaluate all potential sources of groundwater contamination including the waste and unit characteristics. The site hydrogeologic characterization will also help pinpoint specific sources of groundwater contamination.

8. One commenter suggested that the bi-monthly reporting requirement is unnecessary due to the report development schedule contained in Section VI.

(Response will be prepared after completion of revisions to Section VI of the permit.)

DRAFT

ADDITIONAL COMMENTS

1. Several commenters requested that use of the Confidential Business Information (CBI) classification be closely scrutinized. The CBI classification should be reserved for truly CBI information, not for all information submitted by Vulcan.

Title 40 Code of Federal Regulations (CFR) Section 2.201 defines the reasons of business confidentiality to "include the concept of trade secrecy and other related legal concepts which give (or may give) a business the right to preserve the confidentiality of business information and to limit its use or disclosure by others in order that the business may obtain or retain business advantages it derives from its rights in the information."

The above definition restricts the types of information which can be claimed as CBI. Facilities regulated under RCRA can claim any submitted information as CBI. The EPA is then responsible for following the procedures outlined in 40 CFR, Part 2, Subpart B, Confidentiality of Business Information, including handling the claimed information as CBI until a final agency determination is issued. On August 29, !986, all information previously submitted by Vulcan under RCRA and claimed as CBI was released in accordance with the final EPA determination except the percentage of constituents in the hex waste. The released information included, for example, results of hydrogeologic investigations in the area of Vulcan, groundwater monitoring well information and analytical results from groundwater monitoring wells sampling and analysis. On August 29, 1986, the released information was sent to the following repository locations: Wichita Public Library Seneca Square, Westlink and Orchard Park Branches, KDHE Wichita District Office, KDHE in Topeka, and EPA Library in Kansas City.

All information previously submitted by Vulcan under RCRA with a CBI claim except the percentage of hex waste constituents has now been released and is available to the public.

2. One commenter requested that soil samples be taken and analyzed for dioxins, polychlorinated biphenyls and hexachlorobenzenes.

At the request of the EPA Sueprfund Branch, the EPA Environmental Services Division staff collected samples in the area around Vulcan on July 14-17, 1986. Twelve soil samples were collected north of the facility and west of the stormwater lagoons and will be analyzed for base/ neutral/acid extractable organics, volatile organics, pesticides and 2,3,7,8-TCDD. A composite soil sample from this same area will be analyzed for the complete dioxin and furan scan. Five

samples were collected along both the west facility perimeter and north fence line. These samples will be analyzed for base/neutral/acid extractable organics, volatile organics and pesticides. Four samples from each area will also be analyzed for 2,3,7,8-TCDD and one sample from each area will be analyzed for the complete dioxin and furan scan. Five soil samples collected along south facility boundary and four samples collected along east facility boundary will be analyzed for base/neutral/acid extractable organics, volatile organics, pesticides and 2,3,7,8-TCDD. Three soil samples collected in the stormwater ditch along 63rd Street will be analyzed for base/neutral/acid extractable organics, volatile organics, pesticides and 2,3,7,8-TCDD. Two samples collected from a tributary of Cowskin Creek located northeast of Vulcan and one sample collected from Cowskin Creek will be analyzed for base/neutral/acid extractable organics and volatile organics.

3. Several commenters expressed the need for a community health study to address health problems and issues such as headaches, nausea and respiratory problems.

The Environmental Protection Agency, under authority of Section 3004(u) of (HSWA), will be evaluating any releases from all SWMUs at the Vulcan facility for their impact on the health and the environment.

The above mentioned health issues should be supported by documentation and submitted to KDHE for evaluation by the Division of Health staff.

4. One commenter suggested stronger language in the waste minimization permit condition and requested the permit include language requiring reduction or elimination of waste or substitution of alternate chemicals.

Section 3002 of HSWA requires that effective September 1, 1985, shipping manifests contain a certification by generators regarding efforts taken to minimize amount and toxicity of waste generated. The generator must certify that a program is in place to reduce volume or quantity and toxicity of waste generated to a degree determined by the generator to be economically practicable and the proposed method of treatment, storage or disposal is the practicable method currently available to the generator which minimizes present and future threats to human health and the environment.

The preamble to the July 15, 1985 Federal Register which codified as regulation a number of HSWA statutory provisions states "The amendment does not authorize EPA to interfere with or intrude into the production process by requiring standards for waste minimization; rather it specifically provides that the substantive determinations of 'economically practicable' and 'practicable method currently available' are to be made by the generator in light of his own particular circumstances."

The permit as proposed contains the current regulatory requirements for waste minimization. The KDHE is not currently authorized for HSWA, which includes waste minimization requirements.

DRAFT

5. Several commenters expressed concerns and raised questions on the intent of Condition II.B.1. which requires written notice four weeks in advance of when Vulcan (the Permittee) expects to receive hazardous waste from a foreign source.

Due to the public concerns expressed about this standard permit condition, KHDE has deleted this condition from the final permit.

6. Two commenters ask why post-closure requirements do not apply to the closed hex waste/alpha cake landfill.

The hex waste/alpha cake landfill was closed prior to November 8, 1980, therefore, RCRA post-closure requirements do not apply. The corrective action program outlined in Section VI of the permit includes an evaluation of alternatives to the existing alpha cake/hex waste landfill and assessment of any groundwwater contamination resulting from this unit.

7. One commenter asked why insurance for non-sudden accidental occurrences was not included.

The financial requirements regulations of 40 CFR Part 264, Subpart H, specifically Section 264.147, defines liability insurance for nonsudden accidental occurrences as applicable to surface impoundments, landfills or land treatment facilities used to manage hazardous waste. The facility must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facilities. Nonsudden accidental occurrences take place over time and involve continuous or repeated exposure. Vulcan is not currently operating a surface impoundment, landfill or land treatment facility subject to RCRA regulation as a hazardous waste treatment, storage or disposal facility, therefore, nonsudden accidental occurrences liability insurance coverage does not apply. The corrective action program outlined in Section VI of the permit requires development of financial assurance mechanisms after selection of corrective action alternatives and development of detailed cost estimates.

8. One commenter questioned whether the stormwater lagoons could discharge to Cowskin Creek.

The stormwater lagoons are not permitted under the National Pollution Discharge Elimination System (NPDES) permit program. The stormwater lagoons are permitted by KDHE as non-discharging impoundments. Discharges from the stormwater lagoons would be illegal. The KDHE is responsible for enforcement and permitting aspects of the NPDES program.

9. A request was received for analysis of the contents of LP-1, LP-2, and LP-3.

KDHE will either collect samples from these impoundments or require Vulcan to have samples analyzed to assure that they do not contain hazardous waste.

10. One commenter indicated that according to the wastewater flow diagram contained in the Part B permit application, LP-1 receives hazardous waste from tanks 416 and 437.

LP-1 could, in fact, receive corrosive hazardous waste if surge tank 416 were to overflow into surge tank 437 which in turn were to overflow into LP-1. The possibility of this happening is very remote. However, it is possible. Therefore, Vulcan will place a flange on the overflow line from tank 437 to LP-1 to prevent this occurrence.

11. Several commenters ask that the permit period be reduced from five years. One commenter requested that the permit period be increased to ten years.

12. Several commenters requested that records be kept on-site for greater than three years, and preferably kept for the permit period.

Condition I.D.9. of the permit addresses retention of records by the permittee for a period of three years. KDHE agrees that this is not appropriate and the permit will be revised to require retention of all records for at least five years.

13. A comment was raised if the finished products were analyzed for polychlorinated biphenyl content and if so, who conducted the analysis.

14. One commenter questioned the necessity for two of the standard conditions included in the permit. These conditions are contained in Section I.D.3. Permit Expiration and I.D.5. Duty to Mitigate.

Specifically, the permit expiration regulation contained in 40 CFR 270.51 allows a facility to continue to operate after a permit has expired only if the facility has submitted a timely complete new application to KDHE and because of time or resource constraints, KDHE is not able to make timely decision on whether or not to issue the new permit. The expired permit remains in effect and all conditions and requirements of the expired permit are binding and enforceable until a new permit is issued or the old permit revoked.

The duty to mitigate requirement contained in 40 CFR 270.30(d) does not allow or grant the permittee any rights for noncompliance with the permit. This regulation is intended to address unplanned spills or other emergencies which may occur at the facility.

It should be noted that all noncompliance with the permit which may endanger health or environment is required to be reported by 40 CFR 270.30(l)(6) and Condition I.D. 13 of the permit.

These two conditions have been standard conditions in all nine hazardous waste permits issued by KDHE to date. These conditions convey no additional rights or privileges to the permittee that are not already allowed by regulation. Essentially, the entire Section I, Standard Conditions, is a restatement of certain regulations contained in 40 CFR 264 and 270. These conditions have been included in the permit only to summarize applicable regulations that apply to the facility. These conditions could be removed from the permit, however, they would still be applicable to the permittee. Therefore, KDHE concludes no substantial reason exists to modify or remove these two conditions from the permit since they are applicable to the permittee regardless of whether or not they are contained in the permit.

15. One commenter was concerned that the permit would allow the permittee to receive hazardous waste without a manifest.

Condition II.K.5. of the permit specifies that if a shipment of hazardous waste is received without a manifest, a report must be submitted to KDHE within 15 days as required by 40 CFR 264.76. This condition of the permit does not convey any additional rights or privileges to the permittee. Condition II.K.5. is only a notice to the permittee that if a shipment of hazardous waste is received without a manifest, notice must be made to KDHE. If the permittee did receive an unmanifested shipment, KDHE would investigate to determine the responsible party since shipment of hazardous waste without a manifest is a regulatory violation. Where appropriate, enforcement action against the responsible party would be initiated. This condition could be removed from the permit, however, this requirement would still be applciable whether or not it is placed in the permit. KDHE, therefore, concludes that no substantial reason exists to modify or remove this condition from the draft.

16. In the event of an emergency, Vulcan is to notify the Regional Administrator, KDHE and local authorities that clean-up procedures have been completed prior to continued operations. Commenters requested the appropriate regulatory agency conduct an inspection of the clean-up procedures prior to the plant's resuming any operations.

Condition I. D.8 of the permit specifies the inspection authorities delegated to KDHE. Based on the type of emergency and the equipment involved, KDHE would exercise its authorities as outlined in Condition I. D.8 to ensure that clean-up was satisfactory and equipment cleaned and ready for use before a facility may resume any operations.

17. Commenters requested if the facility's closure plan is amended during the life of the facility, such amendment should require public notice and opportunity for public comment.

All amendments to the closure plan require public notice and public review for approval with the following exceptions:

1. A change in the maximum inventory specified in the closure plan.

2. A change in the expected year of closure.

3. Approval of extensions on periods of time to complete closure activities.

18. The permit allows all records and data required by the permit (waste analysis, inspection logs, strip charts, etc.) be kept at the facility and not at the regulatory agencies. Commenters suggested this allowance denies the public access to these documents.

The purpose of this requirement is to ensure that the proper records and documents are being maintained at the facility, that the documents are up-to-date and that they are available for review at the facility during an inspection. Since the concern expressed in this comment is one of providing public access to these records and data, KDHE will require periodic submittal of these documents. The submittal will be in summary report form, unless a particular situation requires that the individual documents be submitted. Any confidential business information submitted (waste analysis) would not be released to the public.

19. One commenter asked if Vulcan is required to notify the National Response Center to ensure the presence of the appropriate on-scene coordinator?

Vulcan is required to notify the National Response Center anytime they know of a release of a hazardous substance in a quantity equal to or exceeding the reportable quantity contained in 40 Code of Federal Regulations (CFR) Part 302. The current list of hazardous substance reportable quantities is contained in the April 4, 1985 Federal Register, 40 CFR Parts 117 and 302.

Vulcan I

In comments received at the Public Hearing and in letters received in the Regional Office, commenters requested an analysis of the particulates emitted by the incinerator.

Incinerators destroy only organic materials. If the incinerator is designed and operated properly, particulate emissions should include only inorganic materials. Particulate matter could come from the inorganic material in the waste feed or from the formuation of salts in the caustic scrubber. Although no analysis of the particulates is required by the regulations, the particulates were tested for PCBs and to determine if they were organic. No PCBs were detected and the particulates were determined to be inorganic. The allowable maximum of 0.08 grains of particulate per dry standard cubic foot of stack gas is a very stringent standard and will provide safety for human health and the environment. The particulate emissions from the Vulcan incinerator are controlled by limiting the ash content in the hex waste to one percent and through the operating conditions of the scrubber imposed by the permit/approval.

Vulcan II

Several commenters questioned the procedures used in the trial burn and made references to the Science Advisory Board report of April 1985, and to technical papaers and reports presented at national symposiums and other technical journals.

The hex waste generated by Vulcan Materials Company contains hexachlorobenzene, hexachlorobutadiene, hexachloroethane, perchloroethylene, octachlorostyrene, hexachlorocyclopentadiene, octachlorocyclopentene, carbon tetrachloride, octochloro-bis-cyclopentadiene, and decachlorobiphenyl (PCB). Of this list of compounds, carbon tetrachloride is the most difficult to incinerate. The compounds present at the highest levels include hexachlorobenzene, hexachloroethane, and hexachlorobutadine.

Due to the high temperature of the hex waste and the low boiling point of carbon tetrachloride, only very small quantities of carbon tetrachloride exist in the hex waste. PCB, as a bi-product in the manufacturing process, is also present in very low concentrations. When the trial burn plan was developed, analytical procedures were not available to demonstrate destruction and removal efficiencies (DREs) for the carbon tetrachloride and the PCB at these low concentrations.

DRAFT

Vulcan II (continued)

The trial burn was designed to use carbon tetrachloride at the appropriate feed levels to demonstrate the DREs at the various operating conditions and to conduct one test using the hex waste to check for products of incomplete combustion (PICs) in the stack gas emissions. Analytical procedures had progressed between the planning and execution of the trial burn such that it was possible to demonstrate a DRE for the PCB of 99.99996%. It should be noted, no PCB was detected in the stack gas emissions. The DRE is based on the detection level of the analytical procedure.

Run number I was performed using carbon tetrachloride under the same feed rate and at the normal operating conditions for incinerating the hex waste. Run number II was performed using the hex waste at the normal feed rate and under the normal operating conditions of operation for the incinerator. Runs number I and number II, therefore, gave a comparison for operating the incinerator using either carbon tetrachloride or the hex waste as the feed.

Runs number III and number IV were conducted to demonstrate the operation of the incinerator at the extremes of feed rate, temperature, and oxygen levels. The results of runs number I, III, and IV are almost identical. The results of running the hex waste at the conditions demonstrated during runs nuber III and number IV should, therefore, be very similar to the results of run number II.

The transmittal letter for the Science Advisory Board report stated that the board believed that incineration is a safe and effective method to dispose of hazardous wastes. The report then went on to identify areas where additional research is needed to provide data to support that finding. Most of that research will take years to complete. EPA and KDHE will reevaluate Vulcan's permit/approval if the results of these research projects indicate that a revision is necessary to protect human life or the environment.

EPA sponsors symposiums and other meetings at which technical papers are presented. These symposiums and meetings offer scientists the opportunity to discuss various projects and ideas. Some of these presentations are in conflict with existing guidance and regulations. These and other research projects are factored into the development of guidance and regulation. EPA and KDHE must use the current guidance and regulations in the evaluation of Vulcan's application for a permit/approval.

DRAFT

Vulcan III

Several commenters expressed concern with the proposed maximum allowable concentration of PCB in the hex waste of 1000 ppm. Vulcan identified the typical PCB concentration in the hex waste at 200-500 ppm and the analysis of the hex waste during the trial burn showed a concentration of approximately 100 ppm.

Polychlorinated biphenyls (PCBs) are generated as a bi-product of the manufacturing process at Vulcan and are thus in the waste stream of this manufacturing process. In the waste stream generated, PCBs are present at levels below 50 ppm. At these levels, the PCBs would not be regulated. Vulcan condenses the waste stream to reduce the amount of hazardous waste for disposal. As a result, the concentration of PCBs in the hex waste is increased to a level that is regulated. The total amount of PCBs remains the same, only the concentration is increased.

Commercial PCB incinerators, for which the TSCA regulations were promulgated, will normally burn waste streams with a concentration of PCBs of 200,000-500,000 ppm. These units are also allowed to incinerate 2000-4000 pounds of PCBs per hour. Vulcan's incinerator is required to meet the same operating requirements as these commercial units except that Vulcan will be limited to a maximum concentration of 1000 ppm which will limit the actual amount of PCBs in the incinerator to less than 0.8 pounds per hour.

Although this proposed concentration of 1000 ppm is twice the normal expected concentration of 500 ppm and ten times the amount demonstrated in the trial burn, the actual increase is insignificant. An increase in the efficiency of the process to concentrate the hazardous waste stream or a minor upset in the manufacturing process could result in higher concentrations of PCBs in the waste stream. The allowable maximum concentration of 1000 ppm of PCB in the hex waste was proposed to address the above situations without the need to modify the approval or to require Vulcan to ship the hex waste off-site for disposal.

Under the waste analysis plan, Vulcan must analyze the hex waste whenever the manufacturing process changes. This requirement would apply to an upset in the manufacturing process. In addition, any materials generated as a result of the cleanup of a spill of the hex waste must be analyzed and must be within the allowable levels specified in the approval before incineration.

Vulcan IV

One commenter asked whether EPA had ever denied a permit for an incinerator.

> To date, the Environmental Protection Agency (EPA) Region VII has formally denied one incinerator permit application. The unit was unable to comply with the regulations in 40 CFR Parts 264 and 270. These regulations specify the standards that a hazardous waste incinerator must meet in order to receive a Resource Conservation and Recovery Act (RCRA) permit. The unit was located in Nebraska and burned spent solvents and other RCRA wastes. No PCBs were identified in the waste feed.
>
> A number of other incinerators in Region VII ceased operations when we began processing their permits. The regulations identified above require automatic controls and performance standards that these incinerators could not meet without substantial retrofit. Although we did not formally deny these permit applications, the end result was the same. No PCB incinerators were in this category.

Vulcan V

One commenter requested a listing of all PCB incinerator disposal companies that have been or are in the process of being issued a TSCA permit by the EPA.

> In EPA Region VII (Iowa, Kansas, Nebraska, and Missouri), the following PCB incineration devices have received approval to incinerate PCBs or have an application to incinerate PCBs under review.
>
> - Union Electric in Labadie, Missouri to incinerate liquid PCBs in a high efficiency boiler.
> - Aluminum Company of America in Davenport, Iowa to incinerate PCBs in a reverberatory melting furnace.
> - Pyrochem in Coffeyville, Kansas to incinerate liquid PCBs and solid materials ocntaining PCBs in a rotary kiln.
> - Vulcan Materials Company in Wichita, Kansas to incinerate PCBs in a liquid injection incinerator.

Vulcan V (continued)

Elsewhere, the following incineration devices have received approvals or are operating as interim status facilities.

ENSCO in Eldorado, Arkansas
Rollins in Deer Park, Texas
EPA Mobile Incinerator in Edison, New Jersey
Pyrotech Systems in Tullahoma, Tennessee
General Electric in Pittsfield, Maine
SCA Chemical Services in Chicago, Illinois
GA Technologies in San Diego, California

The Pyrochem, ENSCO, Rollins and SCA facilities operate commercial incinerators.

Vulcan VI

Several commenters have stated an opinion that Condition III.D.14. which requires Vulcan to continuously measure and record the rate and quantity of the hex waste which is fed to the incinerator and determine the quantity of PCBs fed to the incinerator annually after the analysis of the hex waste does not fulfill the requirements of 40 CFR 761.70(a)(3) which requires that the rate and quantity of PCBs be measured and recorded at regular intervals of no longer than 15 minutes.

Both the TSCA and the RCRA incineration regulations require that the waste feed to the incinerator be measured and recorded. TSCA regulations identify the waste feed as PCBs. RCRA regulations identify the waste feed as hazardous waste. At Vulcan, the waste feed is identified as the hex waste. The hex waste contains both RCRA hazardous waste and TSCA PCBs. By requiring Vulcan to continuously monitor and record the amount of hex waste fed to the incinerator, the requirement in each regulation to monitor and record the amount of waste feed to the incinerator is satisfied. The requirement that Vulcan identify the total amount of PCBs incinerated on an annual basis is an additional requirement specified in the approval.

Vulcan VII

One commenter raised questions regarding the combustion efficiency demonstrated during the trial burn and the differences between the hex waste run and the carbon tetrachloride runs.

Combustion efficiency (CE) is an evaluation of the incineration process and should not be confused with destruction and removal efficiency (DRE). CE is determined by comparing the amounts of

Vulcan VII (continued)

carbon monoxide (CO) and carbon dioxide (CO_2) in the incinerator emissions. DRE is determined by comparing the amount of hazardous constituents fed to the incinerator with the amount of the same hazardous constituent in the stack gas emissions.

Data exist to show that the formation of products of incomplete combustion (PICs) is minimized when the CE is at or above 99.9% and the temperature is above 1652°F (900°C). The TSCA regulations require a CE of at least 99.9% and a minimum temperature of 2012°F (1100°C). The operating conditions in Vulcan's approval will ensure that these requirements will be met.

Vulcan VIII

Several commenters questioned the requirements in Condition III.B.1. with regard to residence time, temperature, and oxygen content in the exhaust gas.

Condition III.B.1 as stated in the draft TSCA approval is contained in the TSCA regulations in 40 CFR 761.70(a). These requirements are included in all TSCA incineration approvals. The operating conditions in Condition III.D. are designed to ensure that the performance standards in Condition III.B. are met.

Due to the design of Vulcan's incinerator, it is impossible to have a residence time of only two seconds at the same time that the oxygen level in the exhaust gas is three percent. For a residence time of two seconds, the oxygen content would be above twelve percent. For an oxygen content of three percent in the exhaust gas, the residence time would be above seven seconds.

The regulations require a temperature of 1200°C (2192°F) plus or minus 100°C (180°F). This translates to a minimum operating temperature of 1100°C (2012°F). The draft TSCA approval requires that the hex waste be automatically shut off if the temperature in the incinerator goes below 2012°F for any reason. The normal operating temperature will be close to that demonstrated in runs I and II of the trial burn. The approval condition of 2012°F is the extreme lower temperature at which the automatic shut-off controls will activate.

Vulcan IX

One commenter asked why no splits were taken of the stack emission samples, and why no analysis was conducted for volatile organic compounds during the hex run.

For each run during the trial burn, at least three tests were conducted. Each test required a minimum of two hours of actual testing using sampling train(s) specified in 40 CFR Part 60. This actual testing

Vulcan IX (continued)

time was in addition to leak checks and port changes. The samples then required a specific recovery procedure using approved quality assurance/quality control (QA/QC) procedures. The quantity of the sample taken during the trial burn and recovered in the laboratory was insufficient to allow splits. EPA uses official observers at the trial burn to ensure that the samples are properly taken and documentation by the laboratory that the QA/QC procedures are followed. Taking random samples from the stack would not be appropriate.

The only volatile organic compound in the hex waste is carbon tetrachloride. However, due to the temperature of the hex waste, the concentration of this compound is too low to conduct an adequate test. No sampling was conducted for volatile organic compounds during the hex run. Sampling for volatile organic compounds was conducted only in runs number I, III, IV.

Vulcan X

One commenter discussed the problems identified by Entropy during the trial burn.

Any problems encountered during the trial burn that could affect the validity of the data must be included in the trial burn report. The problems during the Vulcan trial burn, as identified by Entropy, do not adversely affect the results of the trial burn.

A condenser in the modified method five sampling train was broken during a port change. No sampling was being conducted at that time. However, the analytical data of organic constituents for this particular test are not included in the calculated destruction and removal efficiencies (DREs) for the incinerator.

The freezing lines that reduced the VOST sampling rate below the desired rate of one liter per minute would be significant only if the resulsts were "non detectable" (N.D.). The quantity of the samples taken was adequate to identify the actual emissions of carbon tetrachloride and determine the DRE for each test.

The inadvertent introduction of air into the sampling line of the Method 3 for run 1 of condition 1 does not adversely affect the results of this test. The Method 3 analysis is used only to determine the molecular weight of the flue gas in correcting the measured emissions to standard conditions. The procedure identified by Entropy for using data available from other monitoring equipment to make the necessary corrections is appropriate. Throughout the remainder of the trial burn, the Method 3 results and the other monitoring equipment readings were in agreement.

Vulcan XI

One commenter objected to the requirement in Condition II.C.3. that the Permittee must notify the EPA in writing within 5 days if PCBs were discharged as a result of unauthorized entry.

> Under Condition II.G.2. (Contingency Plan), Vulcan is required to notify the EPA emergency response personnel by telephone and submit a written report within 5 days if ever detectable quantities of PCBs are released to the environment. Condition II.C.3. is in addition to Condition II.G.2. and requires a more detailed report on procedures to correct a breach of security.

Vulcan XII

One commenter objected to Condition II.F.3.(b) which requires that whenever just one employee is on the premises while the facility is operating, he must have immediate access to communication device capable of summoning external emergency assistance.

> Vulcan's normal operation will require several operators in the control room simultaneously because other processes are also controlled from that area. Condition II.F.3.(b) insures that adequate communication device(s) are available, if for any reason, the incinerator operator should be alone.